

Date: Sept. 19 1956

ELECTRONICS TECHNICIAN

TECHNICAL REPORT

Title: D. C. Theory

Assignment: Chapter 2 to 5 of TM-661

Definitions:

1. a. ELEMENT is a substance that can be neither decomposed by ordinary chemical changes nor made by chemical union of a number of substances.
- b. ATOM, an atom is defined as the smallest part of an element that can take part in ordinary chemical changes.
- c. COMPOUND is a substance containing more than one element and having properties different from those of the elements constituents.
- d. ELECTRONS are small invisible particles, negative charge, that revolve around the nucleus of an atom.
- e. PROTON and NUTRON; protons are the positive charge particles that form the nucleus of the atom. Neutrons are the neutral or not charged particles in the nucleus.
2. The force of attraction or repulsion of two electrical charges varies inversely with the square of the distance between them.
3. The word POTENCIAL can be used to signify the possibility to do work. In electricity it is used to indicate the pressure that determines the flow of current through a conductor.
4. CONDUCTORS and INSULATORS. A conductor is a material that has many free electrons. Insulator is a material that has few free electrons.
5. RESISTANCE is the opposition offered by a material to the flow of electrons. The unit of measure is the OHM.
6. OHM'S LAW states that the voltage across any part of a circuit is equal to the product of the current times the resistance of that part of the circuit. $E = IR$; $I = \frac{E}{R}$; $R = \frac{E}{I}$.
7. An increase of temperature will increase the resistance.
8. A charge of one coulomb moving past a point in a conductor in one second is one AMPERE.
9. The difference between a voltmeter and ammeter is that the voltmeter was designed to carry a very small amount of current where as the ammeter is the opposite. The voltmeter is used to measure the voltage and it is connected across the load. The ammeter is used to measure the current and it is connected in series with the load.
10. 500,000 Ohms GREEN, BLACK, YELLOW.

